

# PATENT SPECIFICATION

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## (54) BANK NOTES

(71) I, KEITH JOHN PHILLIPS, a British subject, of Abberley House, 11 Stafford Road, Tilmore, Petersfield, Hampshire, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to improvements, in bank notes, currency notes, and other paper sheets, such as security documents, liable to attempted forgery by unauthorized persons, in which the note or sheet is translucent and includes an opaque thread or strip encased in and surrounded by the paper.

It is current practice to include in paper used for the manufacture of bank notes and certain security documents, a metal or metallised-plastics thread or strip which is visible when the paper (which is translucent) is held before a suitable light source. The thread or strip usually extends across the whole width of the note or sheet.

The present invention provides a bank note, currency note, or other paper sheet, which is translucent and includes an opaque thread or strip encased in and surrounded by the paper, in which the thread or strip comprises ferromagnetic material and is such that information can be magnetically recorded on the thread or strip.

Preferably the ferromagnetic material is on a plastics substrate; it may conveniently have a high coercive force (barium ferrite, for example) so that recorded information is not easily removed. Barium ferrite can be incorporated in paper by printing by conventional methods, using suitable media commonly used in printing inks.

In the preferred method of making a paper sheet according to the invention, a film of plastics material, such as PVC or polyester (e.g. "Mylar" — Trade Mark), is coated with a mixture consisting of 80% by weight barium ferrite in a carrier medium. The medium could be any one compatible

with the plastics film, but the preferred medium is a blend of PVC granules, xylol, xylene, and toluene.

The plastics film is coated with the barium ferrite (or other similar ferromagnetic material) by the conventional roller-coating technique. After the coating has been dried, the film is slit into threads or strips. The threads are then incorporated in note paper by any of the methods currently employed for conventional threads or strips.

The appearance of the bank note is thus conventional (i.e. an opaque thread or strip extends across it), but the note has the security advantage that the ferromagnetic material can carry magnetically recorded information representing the printed serial number of the note or any security code desired. The advantage of using a material of high coercive force, such as barium ferrite, is that the recorded information is not easily wiped or recorded over.

A further advantage is that automatic vending machines (such as fuel pumps) can be made to recognise magnetically recorded information with much greater assurance that the tangible and visible information on which present machines rely.

For less critical applications, conventional magnetic or computer recording tape can be used after slitting to the desired thread width. This enables conventional record/erase and replay equipment to be used slightly modified, thus reducing the initial cost of equipment and note paper, since both the magnetic tape and the record/erase, replay equipment is now made in great volume at comparatively low cost.

### WHAT I CLAIM IS:—

1. A bank note, currency note, or other paper sheet, which is translucent and includes an opaque thread or strip encased in and surrounded by the paper, in which the thread or strip comprises ferromagnetic material and is such that information can be magnetically recorded on the thread or strip.

[Price 25p]

2. A paper sheet as claimed in claim 1, in which the ferromagnetic material is on a plastics substrate.
- 5 3. A paper sheet as claim d in claim 1 or 2, in which the ferromagnetic material has a high coercive force.
4. A paper sheet as claimed in claim 3, in which the ferromagnetic material is barium ferrite.
- 10 5. A paper sheet as claimed in any of claims 1 to 4, in which the thread or strip carries magnet.cally recorded information.
6. A paper sheet as claimed in claim 5, in the form of a bank note or currency note, the record d information representing th 15 serial number of the note.
7. A bank note, currency note, or other paper sheet, as claimed in any of the preceding claims, substantially as described herein. 20

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